

**STETHASPIS HOPE, 1837, (COLEOPTERA: SCARABAEIDAE):
PROPOSED DESIGNATION OF TYPE-SPECIES TO REMOVE
CONFUSION AFFECTING *COSTELYTRA ZEALANDICA*
(WHITE, 1846). Z.N.(S.) 2130.**

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Abstract. - *Costelytra* Given, 1952, contains *C. zealandica* (White, 1846), the most serious pest of pastures in New Zealand. The generic name is often confused with *Costleya* Broun, 1893, (in the same subfamily MELOLONTHINAE), a genus including pests of forests. *Stethaspis* Hope, 1837, based on a misidentified type-species, can be made a senior synonym of *Costleya*, thus removing the confusion.

The aim of this application is to remove a source of confusion surrounding the name *Costelytra zealandica* (White, 1846). This species is the most serious pest of pastures in New Zealand and is the subject of "the biggest research effort ever mounted in New Zealand outside of wartime on a single problem" according to New Zealand's Commissioner for the Environment. The generic name is often confused with *Costleya* Broun, 1893, of which some species are pests, occasionally serious, of forests and forest nurseries. Since the two genera are placed in the same subfamily MELOLONTHINAE, it is most desirable that this confusion be stopped.

2. The most direct way of dealing with this problem, and the one thought to be most acceptable to New Zealand entomologists, is to make *Costleya* a junior subjective synonym of *Stethaspis* Hope, 1837. Since that genus was established on a misidentified type-species, its reference to the Commission is obligatory in any event. It is here proposed that the species actually named by the designator, namely *Melolontha suturalis* Fabricius, 1775, be designated as type-species (Art. 70a(iii)). The history of the names involved is as follows.

3. Boisduval, 1835 (*Voy. Astrolabe*, Col.: 188-90) established a new genus *Micronyx* and included a new species *M. chlorophylla* in it. However, the generic name was preoccupied by *Micronyx* Schoenherr, 1833 for a different Coleopteran, and the species has been for many years regarded as being the same as *Melolontha suturalis* Fabricius, 1775, *Syst. Ent.*: 34, from New Zealand.

4. Hope, 1837 (*Col. Man.*: 105) established the genus *Stethaspis* with *M. suturalis* Fabricius as type-species, by monotypy. Burmeister, 1855 (*Handb. Ent.* vol. 4, pt. 2: 221-2) pointed out that Hope had not known the true *M. suturalis* from New Zealand,

and that his generic description referred to the Australian genus *Xylonychus* Boisduval, 1835, *Voy. Astrolabe*, Col: 186 (type-species, by monotypy, *X. eucalypti* Boisduval, *ibid.*). Burmeister nevertheless applied *Stethaspis* to the true *M. suturalis*, as did Lacordaire (1856, *Gen. Col.* vol. 3: 222-3) and Broun (1893, *Man. N.Z. Col.* vol. 5: 1115). At the same time Broun (1115-1116) established a new genus *Costleya* "allied to *Stethaspis*" with type-species, by monotypy, *C. discoidea* Broun, *ibid.*

5. In 1895 Broun (*Ann. Mag. nat. Hist.* (6) vol. 16: 201-2) established a new genus *Poecilodiscus* "allied to *Stethaspis*" with type-species, by monotypy, *P. pulcher* Broun, 1895, *ibid.* This is now regarded as a synonym of *Costleya*.

6. Arrow, 1903 (*Ann. Mag. nat. Hist.* (7) vol. 11: 303-6) examined specimens in Hope's collection, confirmed Burmeister's conclusion, and followed the consequences further. He concluded that Hope's description of *Stethaspis* was based, not on the true *Melolontha suturalis* Fab. from New Zealand, but on *Xylonychus eucalypti* Boisduval from Australia. He said: "*eucalypti*, Boisd., and its congeners should properly be called *Stethaspis*, and for the New Zealand insect (*suturalis*, Fabr.) I propose the new name *Chlorochiton*." Arrow stated also that *Xylonychus* and *Stethaspis* were synonyms, but used *Stethaspis* as the valid name because "generic characters were not attached to it (*Xylonychus*) until 20 years after". In that he was wrong.

7. Dalla Torre (1912, in Junk, *Col. Cat.* (47): 89) established the new genus *Neostethaspis* for "*Stethaspis* Broun, *Man. N. Zealand Col.*, 5, 1893, p. 1115 [non Hope, 1837, nec Burm. 1855]". But Burmeister had correctly identified the true *M. suturalis* Fabricius with 8-segmented antennae although Lacordaire, 1856, wrongly stated them to be 9-segmented.

8. Given (1952, *N.Z.D.S.I.R. Bull.*, vol. 102: 88-90) synonymised *Costleya* Broun, 1893 and *Poecilodiscus* Broun, 1895, with *Chlorochiton* Arrow, 1903, but used the last as the valid name. In 1960 (*N.Z. Jl Sci.* vol. 3 (3): 376-7) he catalogued the species of *Chlorochiton* and listed the following generic names in synonymy: *Neostethaspis* Dalla Torre, 1912; *Micronyx* Boisduval, 1835, not Schoenherr, 1833; *Stethaspis* Hope, 1837; *Paranonca* Castelnau, 1840 (a genus of the RUTELINAE); *Costleya* Broun, 1893; *Poecilodiscus* Broun, 1895. It is clear that whatever name is to be used for the genus that includes *M. suturalis*, it cannot be *Chlorochiton*. As the above synonymy shows, it must be the confusing *Costleya* unless an appropriate ruling is given by the Commission concerning the type-species of *Stethaspis*.

9. Current usage concerning *Stethaspis* (e.g. Britton, 1957 *Revision of the Australian Chafers*, vol. 1: 62-3) is to treat it as a junior synonym of *Xylonychus* Boisduval, 1835. This usage could only be validated if the species actually before Hope - namely *X. eucalypti* Boisduval - were designated as type-species of *Stethaspis*.

10. Briefly, it would appear that there are three possible courses of action open to the Commission. The first, under Art. 70a (i), would be to designate *Xylonychus eucalypti* Boisduval as type-species of *Stethaspis*; the second, under Art. 70a (iii), would be to designate *Melolontha suturalis* Fabricius as type-species (either of these actions could be taken under the Commission's ordinary powers). The third would be to use the plenary powers to suppress *Stethaspis*, *Costleya*, and *Poecilodiscus* so as to validate *Chlorochiton* Arrow, 1903, which is perhaps the most familiar name to New Zealand zoologists. But this seems an exaggerated use of the plenary powers when a more elegant and simple solution can be found by designating *M. suturalis* Fabricius as type-species of *Stethaspis*.

11. The Commission is therefore asked:

- (1) to designate the nominal species *Melolontha suturalis* Fabricius, 1775, as type-species of *Stethaspis* Hope, 1837;
- (2) to place the generic name *Stethaspis* Hope, 1837 (gender: feminine), type-species, by monotypy, under the ruling given in (1) above, *Melolontha suturalis* Fabricius, 1775, on the Official List of Generic Names in Zoology;
- (3) to place the specific name *suturalis* Fabricius, 1775, as published in the binomen *Melolontha suturalis* (specific name of type-species of *Stethaspis* Hope, 1837) on the Official List of Specific Names in Zoology.